

ABSTRACT OF THE DISCLOSURE

An improved external rotor motor, suitable for driving a cooling fan, has a structure which facilitates automated assembly with proper angular registration of its components. The motor has an external rotor (42) with a central shaft (40) which is rotatably supported inside a bearing support tube (38) having a tapered outer surface (98) formed with a circumferential stop (100) and a plurality of longitudinal guide grooves (102). An inner stator structure (22) is located radially between the bearing support tube (38) and the rotor (42). The inner stator has an internal recess (36) containing a securing ring or disk (20) with inwardly extending tabs (34). During assembly of the inner stator onto the bearing support tube (38), the tabs of the securing ring slide in the guide grooves (102), then bend to form barbs (34') which engage into the outer surface (98) of the bearing support tube, thereby securing the stator (22) on the bearing support tube in a precisely predefined angular orientation. The circumferential stop (100) assures insertion of the bearing support tube to the correct depth.

(FIG. 6)